

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

APPLICANTS: Lerchen, *et al.*

SERIAL NO.: New filing

FILING DATE: herewith

TITLE: Cytostatic-Integrin Conjugates Having Specifically Cleavable Linking  
Units

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**PRELIMINARY AMENDMENT**

Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

This Preliminary Amendment is submitted in the above-captioned application. Please amend the application as follows:

In the Claims

Please cancel claim 21.

Please amend claims 4, 8, 12, 16, 17, and 20, as shown in the attached sheets. A marked version of the claim set showing the changes made is also attached.

Please add new claim 22, as shown in the attached sheet.

Remarks

By way of this Preliminary Amendment, claims 1-20 and 22 are pending. Claim 21 has been cancelled, and claims 4, 8, 12, 16, 17, and 20 have been amended. New claim 22 has been added. These claim cancellations, amendments, and additions are being made solely for purposes of placing the claims in a format appropriate for U.S. prosecution. Applicants submit that the amendments do not change the scope of the claims as originally filed. Such amendments are therefore made to address formalities in the claim format and are not related to the patentability of the subject matter of the claims. No new matter was added by way of these claim amendments and additions.

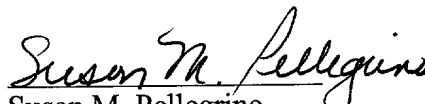
Conclusion

Applicants believe that the subject matter of the pending claims is patentable and that the instant application should accordingly be allowed. If the Examiner believes that a conversation with Applicants' attorney would be helpful in expediting prosecution of this application, the Examiner is invited to call the undersigned attorney at (203) 812-6450.

Respectfully submitted,

Dated: December 20, 2001

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Amended Claims (Attorney Docket No. Le A 34 492)

4. (Amended) Conjugate according to claim 2 or 3, characterized in that

CT is camptothecin or a camptothecin derivative, which can be bonded to the rest of the conjugate via the C20-OH group, or doxorubicine, or quinolone a;

LI is as defined in claim 2 or 3, respectively;

Sp is absent, or is a carbonyl or a thiocarbonyl radical,

IA denotes a non-peptide radical of the formula (II) addressing an  $\alpha_v\beta_3$  integrin receptor,

in which

$R^1$  is OH, methoxy, ethoxy, propoxy, isopropoxy, butoxy, isobutoxy, t-butoxy, pentoxy, isopentoxy, neopentoxy, hexoxy, cyclopropoxy, cyclopropylmethoxy, cyclobutoxy, cyclopentoxy, cyclohexoxy, phenoxy, benzyl-oxy, tolyloxy or a substituted derivative thereof, or optionally represents a direct bond or an atom from the group consisting of N, O and S, via which the radical of the formula (II) is bonded to the rest of the conjugate;

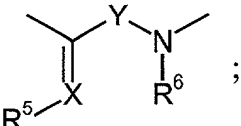
$R^2$  is hydrogen, methyl, ethyl, propyl, isopropyl, butyl, isobutyl, t-butyl, pentyl, isopentyl, neopentyl, hexyl, cyclopropyl, cyclobutyl, cyclo-pentyl, cyclohexyl, phenyl, benzyl, tolyl or a substituted derivative thereof, an optionally substituted alkenyl radical or an optionally substituted alkynyl radical, via which the radical of the formula (II) is optionally bonded to the rest of the conjugate, or is  $-NR^{2'}$ ,  $-NR^{2'}SO_2R^{2'}$ ,  $-NR^{2'}COOR^{2'}$ ,  $-NR^{2'}COR^{2'}$ ,  $-NR^{2'}CO-NR^{2'}$  or  $-NR^{2'}CSNR^{2'}$ ,

in which

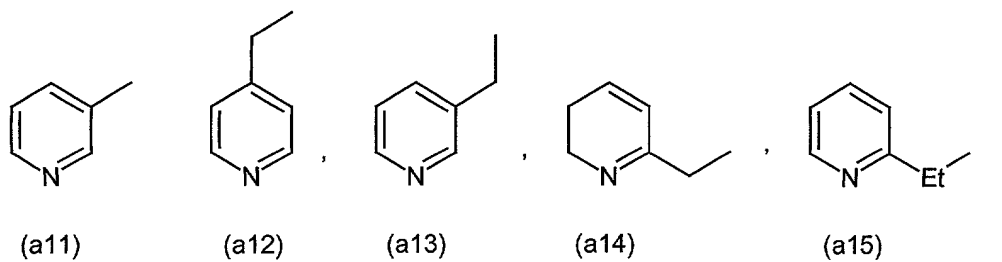
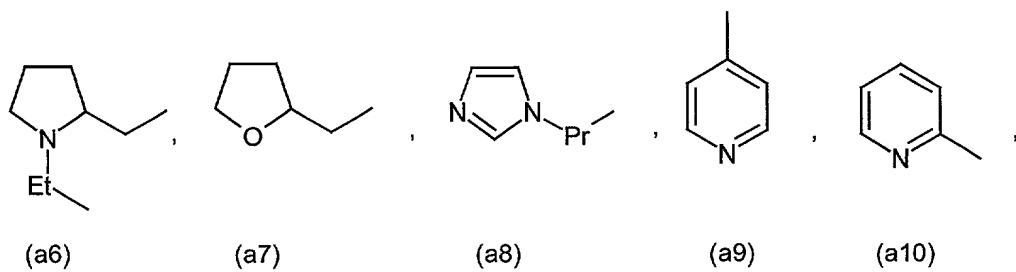
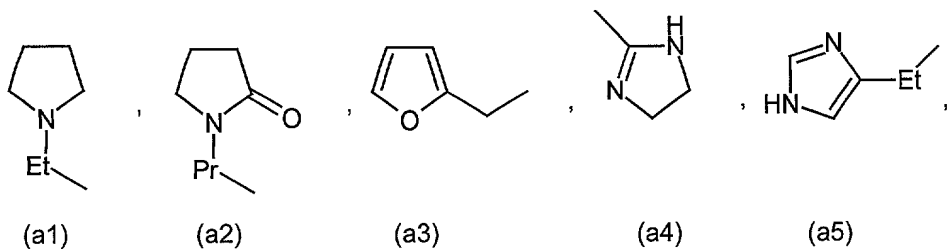
- R<sup>2'</sup> independently of one another is hydrogen, methyl, ethyl, propyl, isopropyl, butyl, isobutyl, t-butyl, pentyl, isopentyl, neopentyl, hexyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl, phenyl, benzyl, tolyl or a substituted derivative thereof, or optionally represents a direct bond via which the radical of the formula (II) is bonded to the rest of the conjugate;
- R<sup>2''</sup> is methyl, ethyl, propyl, isopropyl, butyl, isobutyl, t-butyl, pentyl, isopentyl, neopentyl, hexyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl, phenyl, benzyl, tolyl or a substituted derivative thereof, -C<sub>6</sub>H<sub>2</sub>(CH<sub>3</sub>)<sub>3</sub>, 3-aminophenyl, 4-aminophenyl, 2-chlorophenyl, 4-chlorophenyl, 4-methoxyphenyl, 2,5-dichlorophenyl, 4-trifluoromethylphenyl, camphor-10-yl, 4-t-butylphenyl, 2,5-dimethylphenyl, 3-chlorophenyl, 2-methoxy-5-methylphenyl, 2,3,5,6-tetramethylphenyl, 2,3-dichlorophenyl, 2,6-dichlorophenyl, 2-naphthyl, 3-trifluoromethylphenyl, 4-fluorophenyl, 2,4-difluorophenyl, 2-chloro-6-methylphenyl, 2-chloro-4-fluorophenyl, 2,5-dimethoxyphenyl, 3,4-dimethoxyphenyl, 3-chloro-6-methoxyphenyl, 2-trifluoromethylphenyl, 2-alkylsulphonylphenyl, 2-arylsulphonylphenyl, 3-(N-acetyl-6-methoxy)aniline or 8-quinolinyl, via which the radical of the formula (II) is optionally bonded to the rest of the conjugate;
- U is a direct bond,
- V is an optionally substituted C<sub>1-5</sub>-alkylene group, via which the radical of the formula (II) is optionally bonded to the rest of the conjugate;
- A is a 1,3- or 1,4-bridged phenylene group which is unsubstituted or contains at least one alkoxy radical;

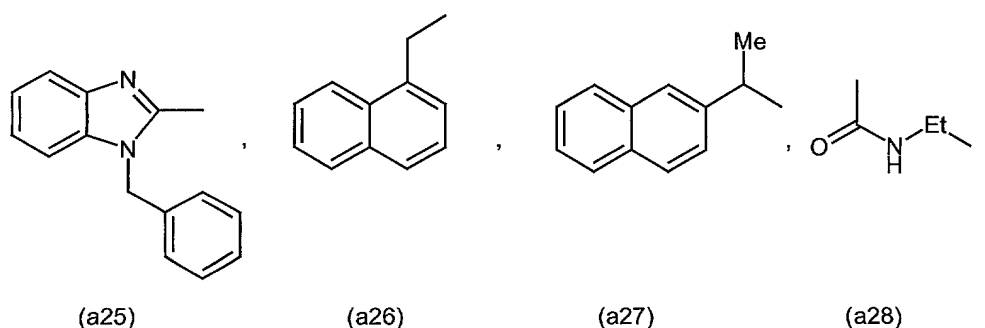
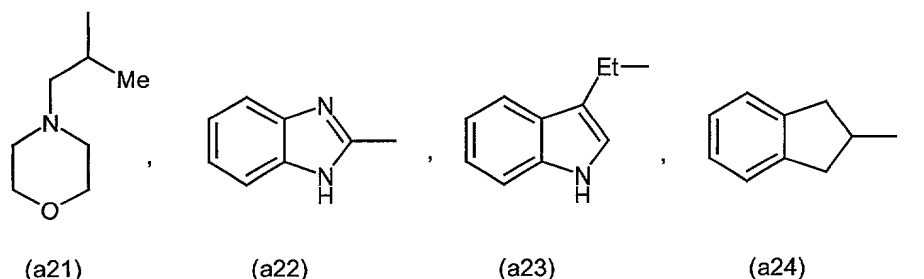
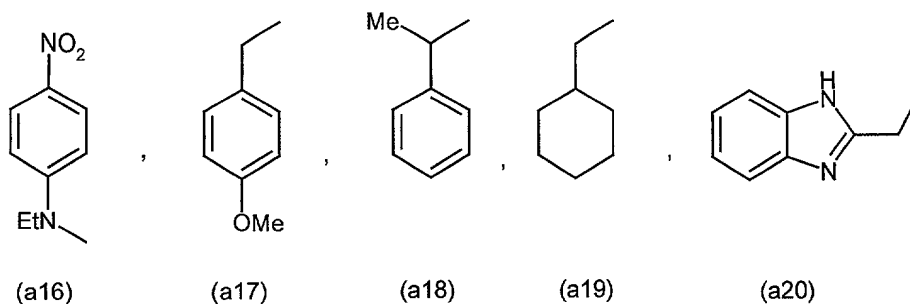
B is a 1,3- or 1,4-bridged phenylene group which is unsubstituted or contains at least one alkyl radical;

W is a direct bond or an optionally substituted C<sub>1-4</sub>-alkylene group;

C is a direct bond or  ;

R<sup>3</sup> is hydrogen, methyl, ethyl, propyl, isopropyl, butyl, isobutyl, t-butyl, pentyl, isopentyl, neopentyl, hexyl, cyclopropyl, cyclopropylmethyl, cyclobutyl, cyclopentyl, cyclohexyl, 4-methylcyclohexyl, 3,3,5-trimethylcyclohexyl, 5-methyl-2-hexyl, phenyl, benzyl, tolyl or a substituted derivative thereof, C<sub>1-4</sub>-alkylamino-C<sub>1-4</sub>-alkyl, C<sub>1-4</sub>-dialkyl-amino-C<sub>1-4</sub>-alkyl, amino-C<sub>1-4</sub>-alkyl, C<sub>1-4</sub>-alkyloxy-C<sub>1-4</sub>-alkyl,





or is bonded to one of  $R^4$ , Y,  $R^5$  or  $R^6$ , if present, with formation of an optionally substituted heterocyclic 4- to 6-membered ring system, which includes the nitrogen atom to which  $R^3$  is bonded and can be saturated or unsaturated and/or can contain further heteroatoms;

$R^4$  is hydrogen, methyl, ethyl, propyl, isopropyl, butyl, isobutyl, t-butyl, pentyl, isopentyl, neopentyl, hexyl, cyclopropyl, cyclopropylmethyl, cyclobutyl, cyclopentyl, cyclohexyl, 4-methylcyclohexyl, 3,3,5-trimethylcyclohexyl, 5-methyl-2-hexyl, phenyl, benzyl, tolyl or a substituted derivative thereof,  $C_{1-4}$ -alkylamino- $C_{1-4}$ -alkyl,  $C_{1-4}$ -dialkylamino- $C_{1-4}$ -alkyl, amino- $C_{1-4}$ -alkyl,  $C_{1-4}$ -alkyloxy- $C_{1-4}$ -alkyl, one of the radicals (a1) to (a28) or is bonded to one of  $R^3$ ,

Y, R<sup>5</sup> or R<sup>6</sup>, if present, with formation of an optionally substituted heterocyclic 4- to 6-membered ring system which includes the nitrogen atom to which R<sup>4</sup> is bonded and can be saturated or unsaturated and/or can contain further heteroatoms, or optionally represents a direct bond via which the radical of the formula (II) is bonded to the rest of the conjugate;

X is O, N or S;

Y is a direct bond or a substituted or unsubstituted methylene or methine group;

R<sup>5</sup> is absent, is -NO<sub>2</sub>, -CN, -COR<sup>5'</sup>, -COOR<sup>5'</sup> or is bonded to one of R<sup>3</sup>, Y, R<sup>4</sup> or R<sup>6</sup>, if present, with formation of an optionally substituted carbocyclic or heterocyclic 4- to 6-membered ring system which includes X and which can be saturated or unsaturated and/or can contain further heteroatoms;

R<sup>5'</sup> is hydrogen, methyl, ethyl, propyl, isopropyl, butyl, isobutyl, t-butyl, pentyl, isopentyl, neopentyl, hexyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl, phenyl, benzyl, tolyl or a substituted derivative thereof;

R<sup>6</sup> is hydrogen, methyl, ethyl, propyl, isopropyl, butyl, isobutyl, t-butyl, pentyl, isopentyl, neopentyl, hexyl, cyclopropyl, cyclopropylmethyl, cyclobutyl, cyclopentyl, cyclohexyl, 4-methylcyclohexyl, 3,3,5-trimethylcyclohexyl, 5-methyl-2-hexyl, phenyl, benzyl, tolyl or a substituted derivative thereof, C<sub>1-4</sub>-alkylamino-C<sub>1-4</sub>-alkyl, C<sub>1-4</sub>-dialkylamino-C<sub>1-4</sub>-alkyl, amino-C<sub>1-4</sub>-alkyl, C<sub>1-4</sub>-alkyloxy-C<sub>1-4</sub>-alkyl, one of the radicals (a1) to (a28) or is bonded to one of R<sup>3</sup>, Y, R<sup>4</sup> or R<sup>5</sup>, if present, with formation of an optionally substituted heterocyclic 4- to 6-membered ring system which includes the nitrogen atom to which R<sup>6</sup> is bonded and can be saturated or unsaturated and/or can contain further heteroatoms.



- CT is camptothecin or a camptothecin derivative, which can be linked to the rest of the conjugate via the C20-OH group, or doxorubicine or quinolone a;

Sp is absent, or a carbonyl or a thiocarbonyl radical,

in which

R<sup>2</sup> is hydrogen, methyl, ethyl, propyl, isopropyl, butyl, isobutyl, t-butyl, pentyl, isopentyl, neopentyl, hexyl, cyclopropyl, cyclo-butyl, cyclopentyl, cyclohexyl, phenyl, benzyl, 4-amino-benzyl, tolyl, phenylethyl, a substituted derivative such as 4-aminobenzyl or a saturated or unsaturated, optionally substituted heterocyclic analogue thereof, an optionally substituted alkenyl radical, an optionally substituted alkynyl radical, via which the radical of the formula (II) is optionally bonded to the rest of the conjugate;

U is a direct bond or an optionally substituted C<sub>1-3</sub>-alkylene group such as -CH(C<sub>6</sub>H<sub>4</sub>-3-NH)- or -CH(C<sub>6</sub>H<sub>4</sub>-4-NH)-, via which the radical of the formula (II) is optionally bonded to the rest of the conjugate;

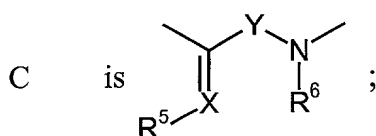
V is -NR<sup>20</sup>CO- or -NR<sup>20</sup>SO<sub>2</sub>-;

R<sup>20</sup> is hydrogen, methyl, ethyl, propyl, isopropyl, butyl, isobutyl, t-butyl, pentyl, isopentyl, neopentyl, hexyl, cyclopropyl, cyclo-propylmethyl, cyclobutyl, cyclopentyl, cyclohexyl, phenyl, benzyl, tolyl, phenylethyl, phenylpropyl, phenoxyethyl or a substituted derivative thereof;

A is a 1,3- or 1,4-bridged phenylene group which is unsubstituted or contains at least one alkoxy radical;

B is a 1,3- or 1,4-bridged phenylene group which is unsubstituted or contains at least one alkyl radical;

W is a direct bond or an optionally substituted C<sub>1-3</sub>-alkylene group;



R<sup>3</sup> is hydrogen, methyl, ethyl, propyl, isopropyl, butyl, isobutyl, t-butyl, pentyl, isopentyl, neopentyl, hexyl, cyclopropyl, cyclo-propylmethyl, cyclobutyl, cyclopentyl, cyclohexyl, 4-methyl-cyclohexyl, 3,3,5-trimethylcyclohexyl, 5-methyl-2-hexyl, phenyl, benzyl, tolyl or a substituted derivative thereof, C<sub>1-4</sub>-alkylamino-C<sub>1-4</sub>-alkyl, C<sub>1-4</sub>-dialkylamino-C<sub>1-4</sub>-alkyl, amino-C<sub>1-4</sub>-alkyl, C<sub>1-4</sub>-alkyloxy-C<sub>1-4</sub>-alkyl,

one of the radicals (a1) to (a28) or is bonded to one of R<sup>4</sup>, Y or R<sup>6</sup>, if present, with formation of an optionally substituted heterocyclic 4- to 6-membered ring system, which includes the nitrogen atom to which R<sup>3</sup> is bonded, and can be saturated or unsaturated and/or can contain further heteroatoms;

R<sup>4</sup> is hydrogen, methyl, ethyl, propyl, isopropyl, butyl, isobutyl, t-butyl, pentyl, isopentyl, neopentyl, hexyl, cyclopropyl, cyclo-propylmethyl, cyclobutyl, cyclopentyl, cyclohexyl, 4-methyl-cyclohexyl, 3,3,5-trimethylcyclohexyl, 5-methyl-2-hexyl, phenyl, benzyl, tolyl or a substituted derivative thereof, C<sub>1-4</sub>-alkylamino-C<sub>1-4</sub>-alkyl, C<sub>1-4</sub>-dialkylamino-C<sub>1-4</sub>-alkyl, amino-C<sub>1-4</sub>-alkyl, C<sub>1-4</sub>-alkyloxy-C<sub>1-4</sub>-alkyl, one of the radicals (a1) to (a28) or is bonded to one of R<sup>3</sup>, Y or R<sup>6</sup>, if present, with formation of an optionally substituted heterocyclic 4- to 6-membered ring system, which includes the nitrogen atom to which R<sup>4</sup> is bonded and can be saturated or unsaturated and/or can contain further heteroatoms, or optionally represents a direct bond via which the radical of the formula (II) is bonded to the rest of the conjugate;

X is O or S;

Y is a direct bond or a substituted or unsubstituted methylene or methine group;

R<sup>5</sup> is absent;

R<sup>6</sup> is hydrogen, methyl, ethyl, propyl, isopropyl, butyl, isobutyl, t-butyl, pentyl, isopentyl, neopentyl, hexyl, cyclopropyl, cyclo-propylmethyl, cyclobutyl, cyclopentyl, cyclohexyl, 4-methyl-cyclohexyl, 3,3,5-trimethylcyclohexyl, 5-methyl-2-hexyl, phenyl, benzyl, tolyl or a

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substituted derivative thereof, C<sub>1-4</sub>-alkylamino-C<sub>1-4</sub>-alkyl, C<sub>1-4</sub>-dialkylamino-C<sub>1-4</sub>-alkyl, amino-C<sub>1-4</sub>-alkyl, C<sub>1-4</sub>-alkyloxy-C<sub>1-4</sub>-alkyl, one of the radicals (a1) to (a28) or is bonded to one of R<sup>3</sup>, Y or R<sup>4</sup>, if present, with formation of an optionally substituted heterocyclic 4- to 6-membered ring system which includes the nitrogen atom to which R<sup>6</sup> is bonded, and can be saturated or unsaturated and/or can contain further heteroatoms.

12. (Amended) Conjugate according to Claim 2 or 3, characterized in that

CT is camptothecin, which can be linked to the rest of the conjugate via the C20-OH group;

LI is as defined in claim 2 or 3, respectively;

Sp is absent, or a carbonyl or a thiocarbonyl radical,

IA is a non-peptide radical of the formula (III) addressing an  $\alpha_v\beta_3$  integrin receptor,

in which

R<sup>7</sup> is OH, methoxy, ethoxy, propoxy, isopropoxy, butoxy, isobutoxy, t-butoxy, pentoxy, isopentoxy, neopentoxy, hexoxy, cyclopropoxy, cyclopropylmethoxy, cyclobutoxy, cyclo-pentoxy, cyclohexoxy, phenoxy, benzyloxy, tolyloxy or a substituted derivative thereof, or optionally represents a direct bond or an atom from the group consisting of N, O and S, via which the radical of the formula (III) is bonded to the rest of the conjugate;

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$R^8$  is hydrogen, methyl, ethyl, propyl, isopropyl, butyl, isobutyl, t-butyl, pentyl, isopentyl, neopentyl, hexyl, cyclopropyl, cyclo-butyl, cyclopentyl, cyclohexyl, cycloheptyl, phenyl, benzyl, tolyl or a substituted derivative thereof, -OH, methoxy, ethoxy, propoxy, butoxy, pentoxy, hexoxy, benzyloxy or is bonded to  $R^9$  with formation of an optionally substituted 3- to 6-membered carbocyclic or heterocyclic ring system, which includes the carbon atom to which  $R^8$  is bonded and can optionally contain heteroatoms;

$R^9$  is hydrogen, methyl, ethyl, propyl, isopropyl, butyl, isobutyl, t-butyl, pentyl, isopentyl, neopentyl, hexyl, cyclopropyl, cyclo-butyl, cyclopentyl, cyclohexyl, cycloheptyl, phenyl, benzyl, tolyl or a substituted derivative thereof, -OH, methoxy, ethoxy, propoxy, butoxy, pentoxy, hexoxy or is bonded to  $R^8$  with formation of an optionally substituted 3- to 6-membered carbocyclic or heterocyclic ring system which includes the carbon atom to which  $R^9$  is bonded and can optionally contain heteroatoms;

$R^{10}$  is  $SO_2R^{10'}$ ,  $-COOR^{10''}$ ,  $-COR^{10'}$ ,  $-CONR^{10'}_2$  or  $-CSNR^{10'}_2$  or represents a direct bond, via which the radical of the formula (III) is optionally bonded to the rest of the conjugate;

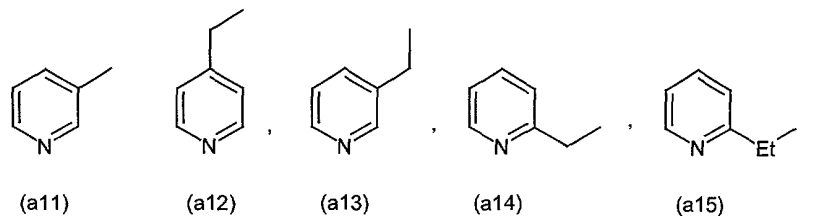
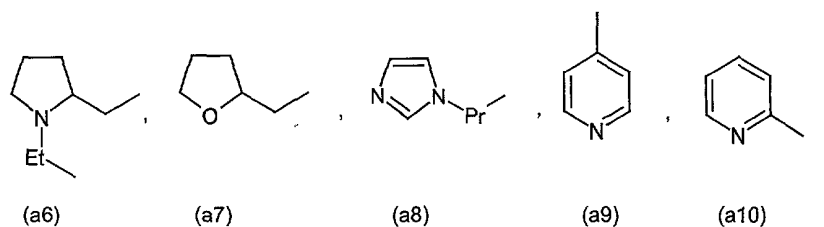
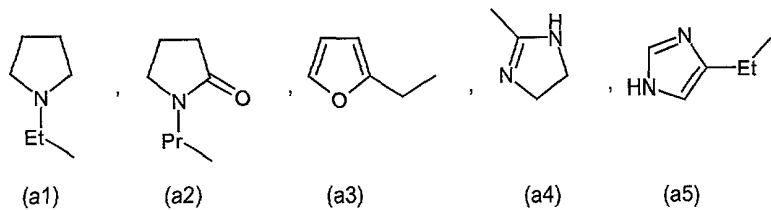
$R^{10'}$  is hydrogen, methyl, ethyl, propyl, isopropyl, butyl, isobutyl, t-butyl, pentyl, isopentyl, neopentyl, hexyl, cyclopropyl, cyclo-butyl, cyclopentyl, cyclohexyl, cycloheptyl, phenyl, benzyl, tolyl or a substituted derivative thereof,  $-C_6H_2(CH_3)_3$ ,  $-C_6(CH_3)_5$ ,  $-CH_2C_6H_2(CH_3)_3$ , 2-chlorophenyl, 3-chlorophenyl, 4-chlorophenyl, 2,3-dichlorophenyl, 2,4-dichlorophenyl, 3,4-dichlorophenyl, 2,5-dichlorophenyl, 3,5-dichlorophenyl, 2,6-dichlorophenyl, 4-chlorophenylmethyl, 2,4-dichloro-phenyl-methyl, 2,6-

dichlorophenylmethyl, 3-aminophenyl, 4-amino-phenyl, 2-methoxy-carbonylphenylmethyl, 3-trifluoromethylphenyl, 4-trifluoromethyl-phenyl, 3,5-bis(trifluoromethyl)phenyl, 4-trifluoromethoxyphenyl, phenylmethyl, 2-acetamido-4-methylthiazol-5-yl, phenylethyl, 1-phenylpropyl, (S)-(+)-camphor-10-yl, (R)-(-)-camphor-10-yl, 2-phenylethenyl, 2-thiophenyl, 4-methoxyphenyl, 3,5-dimethoxyphenyl, 3-methylphenyl, 4-methylphenyl, 4-t-butylphenyl, 4-propylphenyl, 2,5-dimethylphenyl, 2-methoxy-5-methylphenyl, 2,3,5,6-tetramethylphenyl, 1-naphthyl, 2-naphthyl, 4-fluoro-phenyl, 2,4-difluorophenyl, 2-chloro-6-methylphenyl, 2-chloro-4-fluorophenyl, 2,5-dimethoxyphenyl, 3,4-dimethoxyphenyl, 3-chloro-6-methoxy-phenyl, 2-trifluoromethylphenyl, 2-alkylsulphonylphenyl, 2-aryl-sulphonylphenyl, 3-(N-acetyl-6-methoxy)aniline, 4-acetamidophenyl, 2,2,2-trifluoroethyl, 5-chloro-3-methylbenzothiazol-2-yl, N-methoxycarbonyl-piperidin-3-yl, thiophen-2-yl, isoxazol-5-yl, ethoxy, 2-chloropyridin-3-yl, pyridin-3-yl, benzyloxy, 5-methylisoxazol-3-yl, 1-adamantyl, 4-chlorophenoxymethyl, 2,2-dimethylethenyl, 2-chloropyr-idine-5-methyl, 5,7-dimethyl-1,3,4-triazaindolizin-2-yl, (S)-camphan-1-yl, (R)-camphan-1-yl or 8-quinoliny;

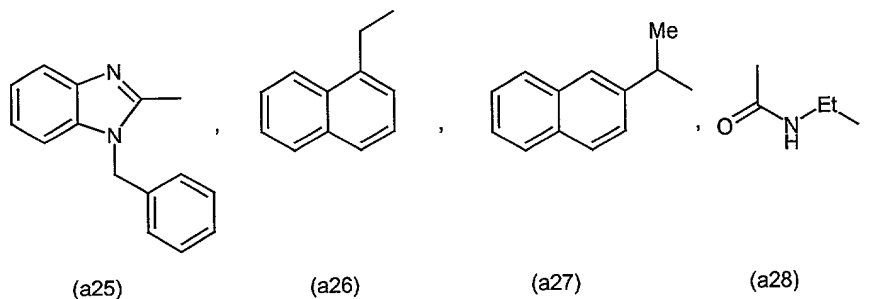
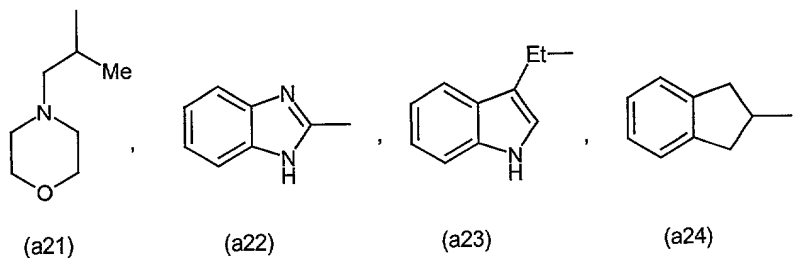
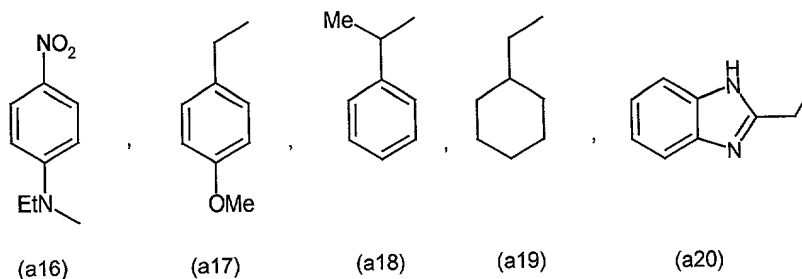
R<sup>10</sup> is a C<sub>1-6</sub>-alkyl radical, a C<sub>3-7</sub>-cycloalkyl radical, a substituted or unsubstituted aryl radical or a saturated or unsaturated, optionally substituted heterocyclic radical, via which the radical of the formula (III) is optionally bonded to the rest of the conjugate;

R<sup>11</sup> is hydrogen, methyl, ethyl, propyl, isopropyl, butyl, isobutyl, t-butyl, pentyl, isopentyl, neopentyl, hexyl, cyclopropyl, cyclo-propylmethyl, cyclobutyl, cyclopentyl, cyclohexyl, cyclo-heptyl, 4-methylcyclohexyl, 3,3,5-trimethylcyclohexyl, 5-methyl-2-hexyl, phenyl, benzyl, tolyl or a substituted derivative thereof, C<sub>1-4</sub>-alkylamino-C<sub>1-4</sub>-alkyl, C<sub>1-4</sub>-dialkyl-

amino-C<sub>1-4</sub>-alkyl, amino-C<sub>1-4</sub>-alkyl, C<sub>1-4</sub>-alkyloxy-C<sub>1-4</sub>-alkyl, dialkyl-  
amino-C<sub>1-4</sub>-alkyl, amino-C<sub>1-4</sub>-alkyl, C<sub>1-4</sub>-alkyloxy-C<sub>1-4</sub>-alkyl or



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$R^{16}$  is hydrogen, CN, methyl, ethyl, propyl, isopropyl, butyl, isobutyl, t-butyl, pentyl, isopentyl, neopentyl, hexyl, cyclo-propyl, cyclobutyl, cyclopentyl, cyclohexyl, cycloheptyl, methoxy, trifluoromethoxy, ethoxy, propoxy, butoxy, pentoxy or hexoxy, fluorine, chlorine, bromine or iodine;

$R^{17}$  is hydrogen, CN, methyl, ethyl, propyl, isopropyl, butyl, isobutyl, t-butyl, pentyl, isopentyl, neopentyl, hexyl, cyclo-propyl, cyclobutyl, cyclopentyl, cyclohexyl, cycloheptyl, methoxy, trifluoromethoxy, ethoxy, propoxy, butoxy, pentoxy or hexoxy, fluorine, chlorine, bromine or iodine;

L is  $-NHSO_2-$ ,  $-CH_2NHSO_2-$ ,  $-NHSO_2CH_2-$ ,  $-SO_2NH-$ ,  $-CH_2SO_2NH-$ ,  $-SO_2NHCH_2-$ ,  $-NHCO-$ ,  $-CH_2NHCO-$ ,  $-NHCOCH_2-$ ,  $-CONH-$ , -



CH<sub>2</sub>CONH-, -CONHCH<sub>2</sub>-, -OCH<sub>2</sub>-, -CH<sub>2</sub>OCH<sub>2</sub>-, -OCH<sub>2</sub>CH<sub>2</sub>-, -CH<sub>2</sub>O-  
or -CH<sub>2</sub>CH<sub>2</sub>O-;

R<sup>12</sup> is hydrogen, methyl, ethyl, propyl, isopropyl, butyl, isobutyl, t-butyl, pentyl, isopentyl, neopentyl, hexyl, cyclopropyl, cyclo-propylmethyl, cyclobutyl, cyclopentyl, cyclohexyl, cyclo-heptyl, 4-methylcyclohexyl, 3,3,5-trimethylcyclohexyl, 5-methyl-2-hexyl, phenyl, benzyl, tolyl or a substituted derivative thereof, C<sub>1-4</sub>-alkylamino-C<sub>1-4</sub>-alkyl, C<sub>1-4</sub>-dialkyl-amino-C<sub>1-4</sub>-alkyl, amino-C<sub>1-4</sub>-alkyl, C<sub>1-4</sub>-alkyloxy-C<sub>1-4</sub>-alkyl, one of the radicals (a1) to (a28) or is bonded to one of R<sup>13</sup>, R<sup>14</sup> or R<sup>15</sup>, if present, with formation of an optionally substituted heterocyclic 4- to 6-membered ring system which includes the nitrogen atom to which R<sup>12</sup> is bonded and can be saturated or unsaturated and/or can contain further heteroatoms;

X<sup>6</sup> is N, O or S;

p is 0 or 1;

R<sup>13</sup> is absent, is -H, methyl, ethyl, propyl, isopropyl, butyl, isobutyl, t-butyl, pentyl, isopentyl, neopentyl, hexyl, cyclo-propyl, cyclobutyl, cyclopentyl, cyclohexyl, cycloheptyl, -NO<sub>2</sub>, -CN, -COR<sup>7</sup>, -COOR<sup>7</sup>, or is connected to one of R<sup>12</sup>, R<sup>14</sup> or R<sup>15</sup> with formation of an optionally substituted carbocyclic or heterocyclic 4- to 6-membered ring system which includes X<sup>6</sup> and can be saturated or unsaturated and/or can contain further heteroatoms;

R<sup>13'</sup> is hydrogen, methyl, ethyl, propyl, isopropyl, butyl, isobutyl, t-butyl, pentyl, isopentyl, neopentyl, hexyl, cyclopropyl, cyclo-butyl, cyclopentyl, cyclohexyl, cycloheptyl, phenyl, benzyl, tolyl or a substituted derivative thereof;

Y' is N or S;

R<sup>14</sup> is hydrogen, methyl, ethyl, propyl, isopropyl, butyl, isobutyl, t-butyl, pentyl, isopentyl, neopentyl, hexyl, cyclopropyl, cyclopropylmethyl, cyclobutyl, cyclopentyl, cyclohexyl, cycloheptyl, 4-methylcyclohexyl, 3,3,5-trimethylcyclohexyl, 5-methyl-2-hexyl, phenyl, benzyl, tolyl or a substituted derivative thereof, C<sub>1-4</sub>-alkylamino-C<sub>1-4</sub>-alkyl, C<sub>1-4</sub>-dialkyl-amino-C<sub>1-4</sub>-alkyl, amino-C<sub>1-4</sub>-alkyl, C<sub>1-4</sub>-alkyloxy-C<sub>1-4</sub>-alkyl, one of the radicals (a1) to (a28), or is bonded to one of R<sup>12</sup>, R<sup>13</sup> or R<sup>15</sup>, if present, with formation of an optionally substituted heterocyclic 4- to 6-membered ring system which includes the nitrogen atom to which R<sup>14</sup> is bonded and can be saturated or unsaturated and/or can contain further heteroatoms; and

R<sup>15</sup> is hydrogen, methyl, ethyl, propyl, isopropyl, butyl, isobutyl, t-butyl, pentyl, isopentyl, neopentyl, hexyl, cyclopropyl, cyclo-propylmethyl, cyclobutyl, cyclopentyl, cyclohexyl, cyclo-heptyl, 4-methylcyclohexyl, 3,3,5-trimethylcyclohexyl, 5-methyl-2-hexyl, phenyl, benzyl, tolyl or a substituted derivative thereof, C<sub>1-4</sub>-alkylamino-C<sub>1-4</sub>-alkyl, C<sub>1-4</sub>-dialkyl-amino-C<sub>1-4</sub>-alkyl, amino-C<sub>1-4</sub>-alkyl, C<sub>1-4</sub>-alkyloxy-C<sub>1-4</sub>-alkyl, one of the radicals (a1) to (a28) or is bonded to one of R<sup>12</sup>, R<sup>13</sup> or R<sup>14</sup>, if present, with formation of an optionally substituted heterocyclic 4- to 6-membered ring system which includes the nitrogen atom to which R<sup>15</sup> is bonded and can be saturated or unsaturated and/or can contain further heteroatoms, and or optionally represents a direct bond via which the radical of the formula (III) is bonded to the rest of the conjugate.

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16. (Amended) Conjugate according to Claim 2 or 3, characterized in that

IA is a non-peptide radical of the formula (IV) addressing an  $\alpha_v\beta_3$  integrin receptor,

wherein

$R^{18}$  represents a direct bond or an atom from the group consisting of N, O and S, via which the radical of the formula (IV) is bonded to the rest of the conjugate;

and the other radicals are as defined in Claim 2 or 3, respectively.

17. (Amended) Conjugate according to Claim 2 or 3, characterized in that

IA is a non-peptide radical of the formula (IV) addressing an  $\alpha_v\beta_3$  integrin receptor,

wherein

$R^{19}$  represents a direct bond, via which the radical of the formula (IV) is bonded to the rest of the conjugate;

and the other radicals are as defined in Claim 2 or 3, respectively.

20. (Amended) A pharmaceutical composition comprising at least one of the conjugates according to any of Claims 1 to 17.

21. Cancelled.

22. (New) A method of treating carcinomatous disorders comprising administering an effective amount of a compound of according to any of Claims 1 to 17.

Amended Claims (Attorney Docket No. Le A 34 492)

Version with Markings to Show Changes to Claims

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4. (Amended) Conjugate according to claim 2 or 3, characterized in that

CT is camptothecin or a camptothecin derivative, which can be bonded to the rest of the conjugate via the C20-OH group, or doxorubicine, or quinolone a;

LI is as defined in claim 2 or 3, respectively;

Sp is absent, or is a carbonyl or a thiocarbonyl radical,

IA denotes a non-peptide radical of the formula (II) addressing an  $\alpha_v\beta_3$  integrin receptor,

in which

R<sup>1</sup> is OH, methoxy, ethoxy, propoxy, isopropoxy, butoxy, isobutoxy, t-butoxy, pentoxy, isopentoxy, neopentoxy, hexoxy, cyclopropoxy, cyclopropylmethoxy, cyclobutoxy, cyclopentoxy, cyclohexoxy, phenoxy, benzyl-oxy, tolyloxy or a substituted derivative thereof, or optionally represents a direct bond or an atom from the group consisting of N, O and S, via which the radical of the formula (II) is bonded to the rest of the conjugate;

R<sup>2</sup> is hydrogen, methyl, ethyl, propyl, isopropyl, butyl, isobutyl, t-butyl, pentyl, isopentyl, neopentyl, hexyl, cyclopropyl, cyclobutyl, cyclo-pentyl, cyclohexyl, phenyl, benzyl, tolyl or a substituted derivative thereof, an optionally substituted alkenyl radical or an optionally substituted alkynyl radical, via which the radical of the formula (II) is optionally bonded to the rest of the

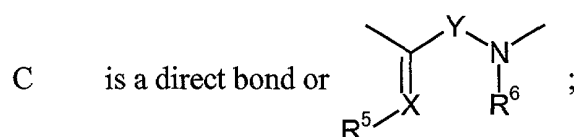
For file 10/19/2007

conjugate, or is  $-\text{NR}^{2'}$ ,  $-\text{NR}^{2'}\text{SO}_2\text{R}^{2''}$ ,  $-\text{NR}^{2'}\text{COOR}^{2''}$ ,  $-\text{NR}^{2'}\text{COR}^{2'}$ ,  $-\text{NR}^{2'}\text{CO}-\text{NR}^{2'}$  or  $-\text{NR}^{2'}\text{CSNR}^{2'}$ ,

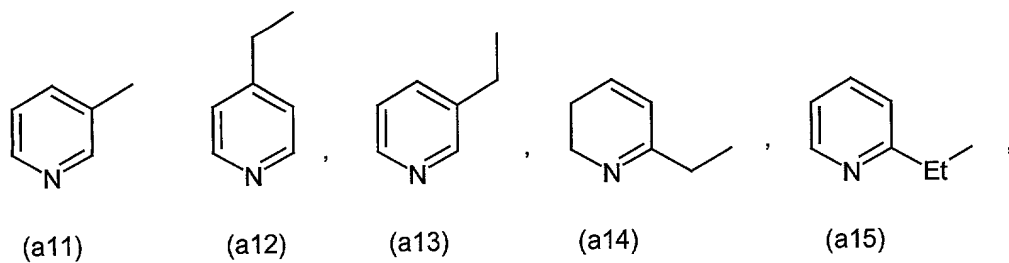
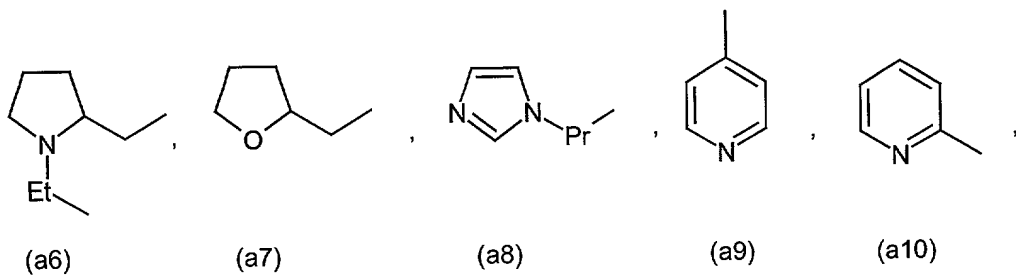
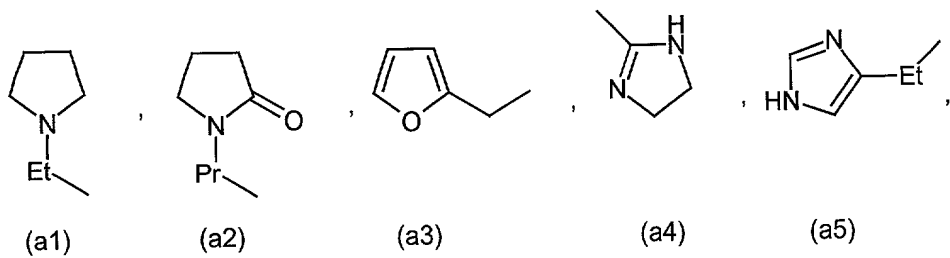
in which

- $\text{R}^{2'}$  independently of one another is hydrogen, methyl, ethyl, propyl, isopropyl, butyl, isobutyl, *t*-butyl, pentyl, isopentyl, neopentyl, hexyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl, phenyl, benzyl, tolyl or a substituted derivative thereof, or optionally represents a direct bond via which the radical of the formula (II) is bonded to the rest of the conjugate;
- $\text{R}^{2''}$  is methyl, ethyl, propyl, isopropyl, butyl, isobutyl, *t*-butyl, pentyl, isopentyl, neopentyl, hexyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl, phenyl, benzyl, tolyl or a substituted derivative thereof,  $-\text{C}_6\text{H}_2(\text{CH}_3)_3$ , 3-aminophenyl, 4-aminophenyl, 2-chlorophenyl, 4-chlorophenyl, 4-methoxyphenyl, 2,5-dichlorophenyl, 4-trifluoromethylphenyl, camphor-10-yl, 4-*t*-butylphenyl, 2,5-dimethylphenyl, 3-chlorophenyl, 2-methoxy-5-methylphenyl, 2,3,5,6-tetramethylphenyl, 2,3-dichlorophenyl, 2,6-dichlorophenyl, 2-naphthyl, 3-trifluoromethylphenyl, 4-fluorophenyl, 2,4-difluorophenyl, 2-chloro-6-methylphenyl, 2-chloro-4-fluorophenyl, 2,5-dimethoxyphenyl, 3,4-dimethoxyphenyl, 3-chloro-6-methoxyphenyl, 2-trifluoromethylphenyl, 2-alkylsulphonylphenyl, 2-arylsulphonylphenyl, 3-(*N*-acetyl-6-methoxy)aniline or 8-quinoliny, via which the radical of the formula (II) is optionally bonded to the rest of the conjugate;
- U is a direct bond,
- V is an optionally substituted  $\text{C}_{1-5}$ -alkylene group, via which the radical of the formula (II) is optionally bonded to the rest of the conjugate;

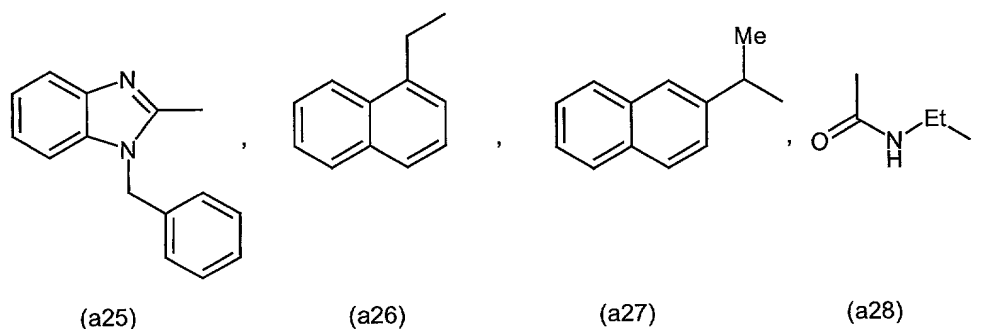
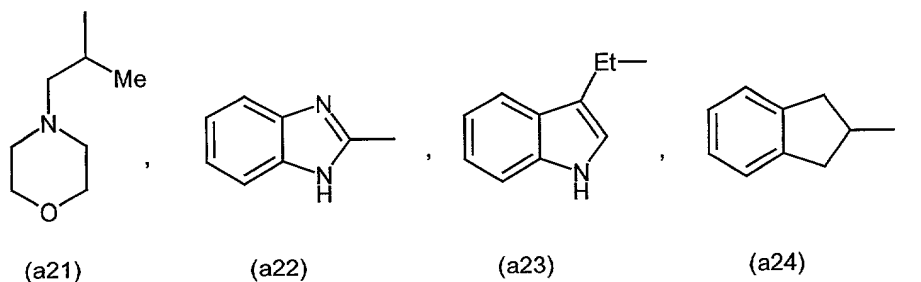
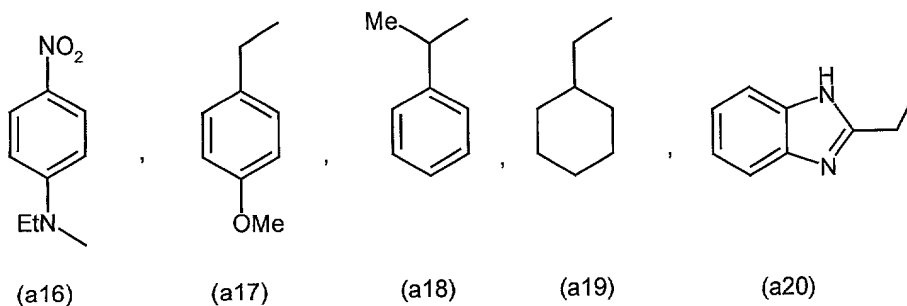
- A is a 1,3- or 1,4-bridged phenylene group which is unsubstituted or contains at least one alkoxy radical;
- B is a 1,3- or 1,4-bridged phenylene group which is unsubstituted or contains at least one alkyl radical;
- W is a direct bond or an optionally substituted C<sub>1-4</sub>-alkylene group;



- R<sup>3</sup> is hydrogen, methyl, ethyl, propyl, isopropyl, butyl, isobutyl, t-butyl, pentyl, isopentyl, neopentyl, hexyl, cyclopropyl, cyclopropylmethyl, cyclobutyl, cyclopentyl, cyclohexyl, 4-methylcyclohexyl, 3,3,5-trimethylcyclohexyl, 5-methyl-2-hexyl, phenyl, benzyl, tolyl or a substituted derivative thereof, C<sub>1-4</sub>-alkylamino-C<sub>1-4</sub>-alkyl, C<sub>1-4</sub>-dialkyl-amino-C<sub>1-4</sub>-alkyl, amino-C<sub>1-4</sub>-alkyl, C<sub>1-4</sub>-alkyloxy-C<sub>1-4</sub>-alkyl,







or is bonded to one of  $R^4$ , Y,  $R^5$  or  $R^6$ , if present, with formation of an optionally substituted heterocyclic 4- to 6-membered ring system, which includes the nitrogen atom to which  $R^3$  is bonded and can be saturated or unsaturated and/or can contain further heteroatoms;

$R^4$  is hydrogen, methyl, ethyl, propyl, isopropyl, butyl, isobutyl, t-butyl, pentyl, isopentyl, neopentyl, hexyl, cyclopropyl, cyclopropylmethyl, cyclobutyl, cyclopentyl, cyclohexyl, 4-methylcyclohexyl, 3,3,5-trimethylcyclohexyl, 5-methyl-2-hexyl, phenyl, benzyl, tolyl or a substituted derivative thereof,  $C_{1-4}$ -alkylamino- $C_{1-4}$ -alkyl,  $C_{1-4}$ -dialkylamino- $C_{1-4}$ -alkyl, amino- $C_{1-4}$ -alkyl,  $C_{1-4}$ -alkyloxy- $C_{1-4}$ -alkyl, one of the radicals (a1) to (a28) or is bonded to one of  $R^3$ ,

Y, R<sup>5</sup> or R<sup>6</sup>, if present, with formation of an optionally substituted heterocyclic 4- to 6-membered ring system which includes the nitrogen atom to which R<sup>4</sup> is bonded and can be saturated or unsaturated and/or can contain further heteroatoms, or optionally represents a direct bond via which the radical of the formula (II) is bonded to the rest of the conjugate;

X is O, N or S;

Y is a direct bond or a substituted or unsubstituted methylene or methine group;

R<sup>5</sup> is absent, is -NO<sub>2</sub>, -CN, -COR<sup>5'</sup>, -COOR<sup>5'</sup> or is bonded to one of R<sup>3</sup>, Y, R<sup>4</sup> or R<sup>6</sup>, if present, with formation of an optionally substituted carbocyclic or heterocyclic 4- to 6-membered ring system which includes X and which can be saturated or unsaturated and/or can contain further heteroatoms;

R<sup>5'</sup> is hydrogen, methyl, ethyl, propyl, isopropyl, butyl, isobutyl, t-butyl, pentyl, isopentyl, neopentyl, hexyl, cyclopropyl, cyclobutyl, cyclo-pentyl, cyclohexyl, phenyl, benzyl, tolyl or a substituted derivative thereof;

R<sup>6</sup> is hydrogen, methyl, ethyl, propyl, isopropyl, butyl, isobutyl, t-butyl, pentyl, isopentyl, neopentyl, hexyl, cyclopropyl, cyclopropylmethyl, cyclobutyl, cyclopentyl, cyclohexyl, 4-methylcyclohexyl, 3,3,5-trimethylcyclohexyl, 5-methyl-2-hexyl, phenyl, benzyl, tolyl or a substituted derivative thereof, C<sub>1-4</sub>-alkylamino-C<sub>1-4</sub>-alkyl, C<sub>1-4</sub>-dialkylamino-C<sub>1-4</sub>-alkyl, amino-C<sub>1-4</sub>-alkyl, C<sub>1-4</sub>-alkyloxy-C<sub>1-4</sub>-alkyl, one of the radicals (a1) to (a28) or is bonded to one of R<sup>3</sup>, Y, R<sup>4</sup> or R<sup>5</sup>, if present, with formation of an optionally substituted heterocyclic 4- to 6-membered ring system which includes the nitrogen atom to which R<sup>6</sup> is bonded and can be saturated or unsaturated and/or can contain further heteroatoms.

10036408 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

8. (Amended) Conjugate according to Claim 2 or 3, characterized in that

CT is camptothecin or a camptothecin derivative, which can be linked to the rest of the conjugate via the C20-OH group, or doxorubicine or quinolone a;

LI is as defined in claim 2 or 3, respectively;

Sp is absent, or a carbonyl or a thiocarbonyl radical,

IA is a non-peptide radical of the formula (II) addressing an  $\alpha_v\beta_3$  integrin receptor,

in which

R<sup>1</sup> is OH, methoxy, ethoxy, propoxy, isopropoxy, butoxy, isobutoxy, t-butoxy, pentoxy, isopentoxy, neopentoxy, hexoxy, cyclopropoxy, cyclopropylmethoxy, cyclobutoxy, cyclo-pentoxy, cyclohexoxy, phenoxy, benzyloxy, tolyloxy or a substituted derivative thereof, or optionally represents a direct bond or an atom from the group consisting of N, O and S, via which the radical of the formula (II) is bonded to the rest of the conjugate;

R<sup>2</sup> is hydrogen, methyl, ethyl, propyl, isopropyl, butyl, isobutyl, t-butyl, pentyl, isopentyl, neopentyl, hexyl, cyclopropyl, cyclo-butyl, cyclopentyl, cyclohexyl, phenyl, benzyl, 4-amino-benzyl, tolyl, phenylethyl, a substituted derivative such as 4-aminobenzyl or a saturated or unsaturated, optionally substituted heterocyclic analogue thereof, an optionally substituted alkenyl radical, an optionally substituted alkynyl radical, via which the radical of the formula (II) is optionally bonded to the rest of the conjugate;

U is a direct bond or an optionally substituted C<sub>1-3</sub>-alkylene group such as -CH(C<sub>6</sub>H<sub>4</sub>-3-NH)- or -CH(C<sub>6</sub>H<sub>4</sub>-4-NH)-, via which the radical of the formula (II) is optionally bonded to the rest of the conjugate;

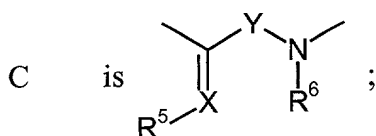
V is -NR<sup>20</sup>CO- or -NR<sup>20</sup>SO<sub>2</sub>-;

R<sup>20</sup> is hydrogen, methyl, ethyl, propyl, isopropyl, butyl, isobutyl, t-butyl, pentyl, isopentyl, neopentyl, hexyl, cyclopropyl, cyclo-propylmethyl, cyclobutyl, cyclopentyl, cyclohexyl, phenyl, benzyl, tolyl, phenylethyl, phenylpropyl, phenoxyethyl or a substituted derivative thereof;

A is a 1,3- or 1,4-bridged phenylene group which is unsubstituted or contains at least one alkoxy radical;

B is a 1,3- or 1,4-bridged phenylene group which is unsubstituted or contains at least one alkyl radical;

W is a direct bond or an optionally substituted C<sub>1-3</sub>-alkylene group;



R<sup>3</sup> is hydrogen, methyl, ethyl, propyl, isopropyl, butyl, isobutyl, t-butyl, pentyl, isopentyl, neopentyl, hexyl, cyclopropyl, cyclo-propylmethyl, cyclobutyl, cyclopentyl, cyclohexyl, 4-methyl-cyclohexyl, 3,3,5-trimethylcyclohexyl, 5-methyl-2-hexyl, phenyl, benzyl, tolyl or a substituted derivative thereof, C<sub>1-4</sub>-alkylamino-C<sub>1-4</sub>-alkyl, C<sub>1-4</sub>-dialkylamino-C<sub>1-4</sub>-alkyl, amino-C<sub>1-4</sub>-alkyl, C<sub>1-4</sub>-alkyloxy-C<sub>1-4</sub>-alkyl,

one of the radicals (a1) to (a28) or is bonded to one of R<sup>4</sup>, Y or R<sup>6</sup>, if present, with formation of an optionally substituted heterocyclic 4- to 6-membered ring system, which includes the nitrogen atom to which R<sup>3</sup> is bonded, and can be saturated or unsaturated and/or can contain further heteroatoms;

- R<sup>4</sup> is hydrogen, methyl, ethyl, propyl, isopropyl, butyl, isobutyl, t-butyl, pentyl, isopentyl, neopentyl, hexyl, cyclopropyl, cyclo-propylmethyl, cyclobutyl, cyclopentyl, cyclohexyl, 4-methyl-cyclohexyl, 3,3,5-trimethylcyclohexyl, 5-methyl-2-hexyl, phenyl, benzyl, tolyl or a substituted derivative thereof, C<sub>1-4</sub>-alkylamino-C<sub>1-4</sub>-alkyl, C<sub>1-4</sub>-dialkylamino-C<sub>1-4</sub>-alkyl, amino-C<sub>1-4</sub>-alkyl, C<sub>1-4</sub>-alkyloxy-C<sub>1-4</sub>-alkyl, one of the radicals (a1) to (a28) or is bonded to one of R<sup>3</sup>, Y or R<sup>6</sup>, if present, with formation of an optionally substituted heterocyclic 4- to 6-membered ring system, which includes the nitrogen atom to which R<sup>4</sup> is bonded and can be saturated or unsaturated and/or can contain further heteroatoms, or optionally represents a direct bond via which the radical of the formula (II) is bonded to the rest of the conjugate;
- X is O or S;
- Y is a direct bond or a substituted or unsubstituted methylene or methine group;
- R<sup>5</sup> is absent;
- R<sup>6</sup> is hydrogen, methyl, ethyl, propyl, isopropyl, butyl, isobutyl, t-butyl, pentyl, isopentyl, neopentyl, hexyl, cyclopropyl, cyclo-propylmethyl, cyclobutyl, cyclopentyl, cyclohexyl, 4-methyl-cyclohexyl, 3,3,5-trimethylcyclohexyl, 5-methyl-2-hexyl, phenyl, benzyl, tolyl or a

substituted derivative thereof, C<sub>1-4</sub>-alkylamino-C<sub>1-4</sub>-alkyl, C<sub>1-4</sub>-dialkylamino-C<sub>1-4</sub>-alkyl, amino-C<sub>1-4</sub>-alkyl, C<sub>1-4</sub>-alkyloxy-C<sub>1-4</sub>-alkyl, one of the radicals (a1) to (a28) or is bonded to one of R<sup>3</sup>, Y or R<sup>4</sup>, if present, with formation of an optionally substituted heterocyclic 4- to 6-membered ring system which includes the nitrogen atom to which R<sup>6</sup> is bonded, and can be saturated or unsaturated and/or can contain further heteroatoms.

12. (Amended) Conjugate according to Claim 2 or 3, characterized in that

CT is camptothecin, which can be linked to the rest of the conjugate via the C20-OH group;

LI is as defined in claim 2 or 3, respectively;

Sp is absent, or a carbonyl or a thiocarbonyl radical,

IA is a non-peptide radical of the formula (III) addressing an  $\alpha_v\beta_3$  integrin receptor,

in which

R<sup>7</sup> is OH, methoxy, ethoxy, propoxy, isopropoxy, butoxy, isobutoxy, t-butoxy, pentoxy, isopentoxy, neopentoxy, hexoxy, cyclopropoxy, cyclopropylmethoxy, cyclobutoxy, cyclo-pentoxy, cyclohexoxy, phenoxy, benzyloxy, tolyloxy or a substituted derivative thereof, or optionally represents a direct bond or an atom from the group consisting of N, O and S, via which the radical of the formula (III) is bonded to the rest of the conjugate;

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R<sup>8</sup> is hydrogen, methyl, ethyl, propyl, isopropyl, butyl, isobutyl, t-butyl, pentyl, isopentyl, neopentyl, hexyl, cyclopropyl, cyclo-butyl, cyclopentyl, cyclohexyl, cycloheptyl, phenyl, benzyl, tolyl or a substituted derivative thereof, -OH, methoxy, ethoxy, propoxy, butoxy, pentoxy, hexoxy, benzyloxy or is bonded to R<sup>9</sup> with formation of an optionally substituted 3- to 6-membered carbocyclic or heterocyclic ring system, which includes the carbon atom to which R<sup>8</sup> is bonded and can optionally contain heteroatoms;

R<sup>9</sup> is hydrogen, methyl, ethyl, propyl, isopropyl, butyl, isobutyl, t-butyl, pentyl, isopentyl, neopentyl, hexyl, cyclopropyl, cyclo-butyl, cyclopentyl, cyclohexyl, cycloheptyl, phenyl, benzyl, tolyl or a substituted derivative thereof, -OH, methoxy, ethoxy, propoxy, butoxy, pentoxy, hexoxy or is bonded to R<sup>8</sup> with formation of an optionally substituted 3- to 6-membered carbocyclic or heterocyclic ring system which includes the carbon atom to which R<sup>9</sup> is bonded and can optionally contain heteroatoms;

R<sup>10</sup> is SO<sub>2</sub>R<sup>10'</sup>, -COOR<sup>10'</sup>, -COR<sup>10'</sup>, -CONR<sup>10'</sup><sub>2</sub> or -CSNR<sup>10'</sup><sub>2</sub> or represents a direct bond, via which the radical of the formula (III) is optionally bonded to the rest of the conjugate;

R<sup>10'</sup> is hydrogen, methyl, ethyl, propyl, isopropyl, butyl, isobutyl, t-butyl, pentyl, isopentyl, neopentyl, hexyl, cyclopropyl, cyclo-butyl, cyclopentyl, cyclohexyl, cycloheptyl, phenyl, benzyl, tolyl or a substituted derivative thereof, -C<sub>6</sub>H<sub>2</sub>(CH<sub>3</sub>)<sub>3</sub>, -C<sub>6</sub>(CH<sub>3</sub>)<sub>5</sub>, -CH<sub>2</sub>C<sub>6</sub>H<sub>2</sub>(CH<sub>3</sub>)<sub>3</sub>, 2-chlorophenyl, 3-chlorophenyl, 4-chlorophenyl, 2,3-dichlorophenyl, 2,4-dichlorophenyl, 3,4-dichlorophenyl, 2,5-dichlorophenyl, 3,5-dichlorophenyl, 2,6-dichlorophenyl, 4-

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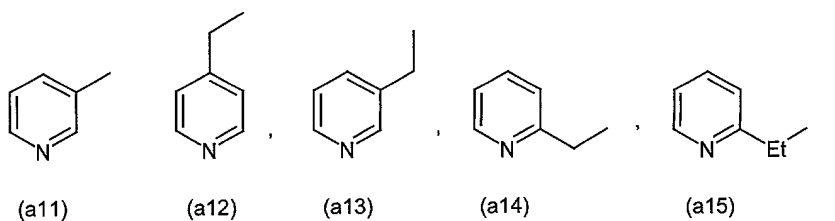
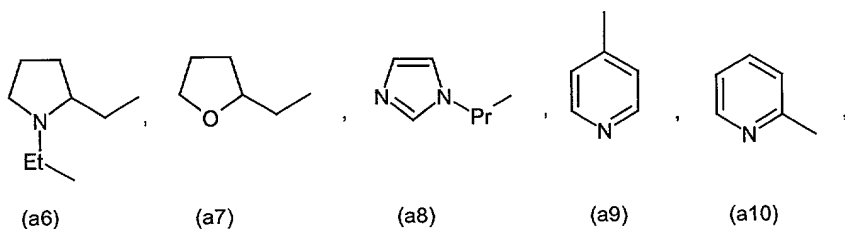
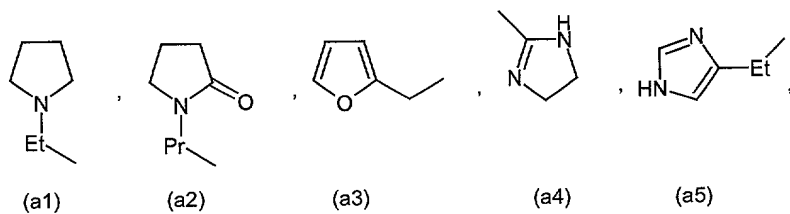
chlorophenylmethyl, 2,4-dichloro-phenyl-methyl, 2,6-dichlorophenylmethyl, 3-aminophenyl, 4-amino-phenyl, 2-methoxycarbonylphenylmethyl, 3-trifluoromethylphenyl, 4-trifluoromethylphenyl, 3,5-bis(trifluoromethyl)phenyl, 4-trifluoromethoxyphenyl, phenylmethyl, 2-acetamido-4-methylthiazol-5-yl, phenylethyl, 1-phenylpropyl, (S)-(+)-camphor-10-yl, (R)-(-)-camphor-10-yl, 2-phenylethenyl, 2-thiophenyl, 4-methoxyphenyl, 3,5-dimethoxyphenyl, 3-methylphenyl, 4-methylphenyl, 4-t-butylphenyl, 4-propylphenyl, 2,5-dimethylphenyl, 2-methoxy-5-methylphenyl, 2,3,5,6-tetramethylphenyl, 1-naphthyl, 2-naphthyl, 4-fluoro-phenyl, 2,4-difluorophenyl, 2-chloro-6-methylphenyl, 2-chloro-4-fluorophenyl, 2,5-dimethoxyphenyl, 3,4-dimethoxyphenyl, 3-chloro-6-methoxyphenyl, 2-trifluoromethylphenyl, 2-alkylsulphonylphenyl, 2-aryl-sulphonylphenyl, 3-(N-acetyl-6-methoxy)aniline, 4-acetamidophenyl, 2,2,2-trifluoroethyl, 5-chloro-3-methylbenzothiazol-2-yl, N-methoxycarbonyl-piperidin-3-yl, thiophen-2-yl, isoxazol-5-yl, ethoxy, 2-chloropyridin-3-yl, pyridin-3-yl, benzyloxy, 5-methylisoxazol-3-yl, 1-adamantyl, 4-chlorophenoxymethyl, 2,2-dimethylethenyl, 2-chloropyridine-5-methyl, 5,7-dimethyl-1,3,4-triazaindolizin-2-yl, (S)-camphan-1-yl, (R)-camphan-1-yl or 8-quinolinyl;

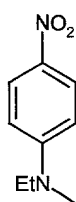
R<sup>10</sup> is a C<sub>1-6</sub>-alkyl radical, a C<sub>3-7</sub>-cycloalkyl radical, a substituted or unsubstituted aryl radical or a saturated or unsaturated, optionally substituted heterocyclic radical, via which the radical of the formula (III) is optionally bonded to the rest of the conjugate;

R<sup>11</sup> is hydrogen, methyl, ethyl, propyl, isopropyl, butyl, isobutyl, t-butyl, pentyl, isopentyl, neopentyl, hexyl, cyclopropyl, cyclo-propylmethyl, cyclobutyl, cyclopentyl, cyclohexyl, cyclo-heptyl, 4-methylcyclohexyl, 3,3,5-trimethylcyclohexyl, 5-methyl-2-hexyl, phenyl, benzyl, tolyl or a

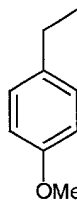


substituted derivative thereof, C<sub>1-4</sub>-alkylamino-C<sub>1-4</sub>-alkyl, C<sub>1-4</sub>-dialkyl-amino-C<sub>1-4</sub>-alkyl, amino-C<sub>1-4</sub>-alkyl, C<sub>1-4</sub>-alkyloxy-C<sub>1-4</sub>-alkyl, dialkyl-amino-C<sub>1-4</sub>-alkyl, amino-C<sub>1-4</sub>-alkyl, C<sub>1-4</sub>-alkyloxy-C<sub>1-4</sub>-alkyl or

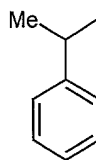




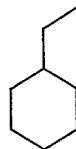
(a16)



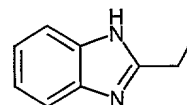
(a17)



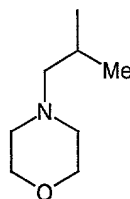
(a18)



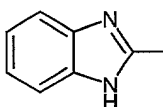
(a19)



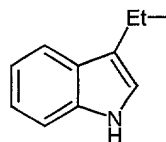
(a20)



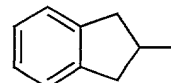
(a21)



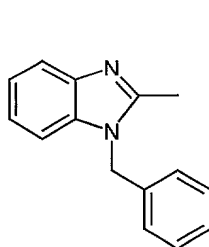
(a22)



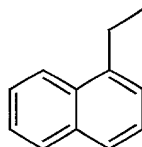
(a23)



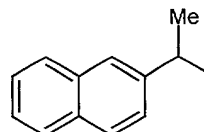
(a24)



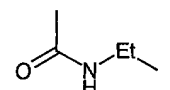
(a25)



(a26)



(a27)



(a28)

$R^{16}$  is hydrogen, CN, methyl, ethyl, propyl, isopropyl, butyl, isobutyl, t-butyl, pentyl, isopentyl, neopentyl, hexyl, cyclo-propyl, cyclobutyl, cyclopentyl, cyclohexyl, cycloheptyl, methoxy, trifluoromethoxy, ethoxy, propoxy, butoxy, pentoxy or hexoxy, fluorine, chlorine, bromine or iodine;

$R^{17}$  is hydrogen, CN, methyl, ethyl, propyl, isopropyl, butyl, isobutyl, t-butyl, pentyl, isopentyl, neopentyl, hexyl, cyclo-propyl, cyclobutyl, cyclopentyl, cyclohexyl, cycloheptyl, methoxy, trifluoromethoxy, ethoxy, propoxy, butoxy, pentoxy or hexoxy, fluorine, chlorine, bromine or iodine;

L is  $-NH SO_2-$ ,  $-CH_2 NH SO_2-$ ,  $-NH SO_2 CH_2-$ ,  $-SO_2 NH-$ ,  $-CH_2 SO_2 NH-$ ,  $-SO_2 NH CH_2-$ ,  $-NH CO-$ ,  $-CH_2 NH CO-$ ,  $-NH CO CH_2-$ ,  $-CONH-$ , -

CH<sub>2</sub>CONH-, -CONHCH<sub>2</sub>-, -OCH<sub>2</sub>-, -CH<sub>2</sub>OCH<sub>2</sub>-, -OCH<sub>2</sub>CH<sub>2</sub>-, -CH<sub>2</sub>O-  
or -CH<sub>2</sub>CH<sub>2</sub>O-;

R<sup>12</sup> is hydrogen, methyl, ethyl, propyl, isopropyl, butyl, isobutyl, t-butyl, pentyl, isopentyl, neopentyl, hexyl, cyclopropyl, cyclo-propylmethyl, cyclobutyl, cyclopentyl, cyclohexyl, cyclo-heptyl, 4-methylcyclohexyl, 3,3,5-trimethylcyclohexyl, 5-methyl-2-hexyl, phenyl, benzyl, tolyl or a substituted derivative thereof, C<sub>1-4</sub>-alkylamino-C<sub>1-4</sub>-alkyl, C<sub>1-4</sub>-dialkyl-amino-C<sub>1-4</sub>-alkyl, amino-C<sub>1-4</sub>-alkyl, C<sub>1-4</sub>-alkyloxy-C<sub>1-4</sub>-alkyl, one of the radicals (a1) to (a28) or is bonded to one of R<sup>13</sup>, R<sup>14</sup> or R<sup>15</sup>, if present, with formation of an optionally substituted heterocyclic 4- to 6-membered ring system which includes the nitrogen atom to which R<sup>12</sup> is bonded and can be saturated or unsaturated and/or can contain further heteroatoms;

X<sup>c</sup> is N, O or S;

p is 0 or 1;

R<sup>13</sup> is absent, is -H, methyl, ethyl, propyl, isopropyl, butyl, isobutyl, t-butyl, pentyl, isopentyl, neopentyl, hexyl, cyclo-propyl, cyclobutyl, cyclopentyl, cyclohexyl, cycloheptyl, -NO<sub>2</sub>, -CN, -COR<sup>7'</sup>, -COOR<sup>7'</sup>, or is connected to one of R<sup>12</sup>, R<sup>14</sup> or R<sup>15</sup> with formation of an optionally substituted carbocyclic or heterocyclic 4- to 6-membered ring system which includes X<sup>c</sup> and can be saturated or unsaturated and/or can contain further heteroatoms;

R<sup>13'</sup> is hydrogen, methyl, ethyl, propyl, isopropyl, butyl, isobutyl, t-butyl, pentyl, isopentyl, neopentyl, hexyl, cyclopropyl, cyclo-butyl, cyclopentyl, cyclohexyl, cycloheptyl, phenyl, benzyl, tolyl or a substituted derivative thereof;

Y' is N or S;

R<sup>14</sup> is hydrogen, methyl, ethyl, propyl, isopropyl, butyl, isobutyl, t-butyl, pentyl, isopentyl, neopentyl, hexyl, cyclopropyl, cyclopropylmethyl, cyclobutyl, cyclopentyl, cyclohexyl, cycloheptyl, 4-methylcyclohexyl, 3,3,5-trimethylcyclohexyl, 5-methyl-2-hexyl, phenyl, benzyl, tolyl or a substituted derivative thereof, C<sub>1-4</sub>-alkylamino-C<sub>1-4</sub>-alkyl, C<sub>1-4</sub>-dialkylamino-C<sub>1-4</sub>-alkyl, amino-C<sub>1-4</sub>-alkyl, C<sub>1-4</sub>-alkyloxy-C<sub>1-4</sub>-alkyl, one of the radicals (a1) to (a28), or is bonded to one of R<sup>12</sup>, R<sup>13</sup> or R<sup>15</sup>, if present, with formation of an optionally substituted heterocyclic 4- to 6-membered ring system which includes the nitrogen atom to which R<sup>14</sup> is bonded and can be saturated or unsaturated and/or can contain further heteroatoms; and

R<sup>15</sup> is hydrogen, methyl, ethyl, propyl, isopropyl, butyl, isobutyl, t-butyl, pentyl, isopentyl, neopentyl, hexyl, cyclopropyl, cyclo-propylmethyl, cyclobutyl, cyclopentyl, cyclohexyl, cyclo-heptyl, 4-methylcyclohexyl, 3,3,5-trimethylcyclohexyl, 5-methyl-2-hexyl, phenyl, benzyl, tolyl or a substituted derivative thereof, C<sub>1-4</sub>-alkylamino-C<sub>1-4</sub>-alkyl, C<sub>1-4</sub>-dialkylamino-C<sub>1-4</sub>-alkyl, amino-C<sub>1-4</sub>-alkyl, C<sub>1-4</sub>-alkyloxy-C<sub>1-4</sub>-alkyl, one of the radicals (a1) to (a28) or is bonded to one of R<sup>12</sup>, R<sup>13</sup> or R<sup>14</sup>, if present, with formation of an optionally substituted heterocyclic 4- to 6-membered ring system which includes the nitrogen atom to which R<sup>15</sup> is bonded and can be saturated or unsaturated and/or can contain further heteroatoms, and or optionally represents a direct bond via which the radical of the formula (III) is bonded to the rest of the conjugate.

16. (Amended) Conjugate according to Claim 2 or 3, characterized in that

IA is a non-peptide radical of the formula (IV) addressing an  $\alpha_v\beta_3$  integrin receptor,

wherein

$R^{18}$  represents a direct bond or an atom from the group consisting of N, O and S, via which the radical of the formula (IV) is bonded to the rest of the conjugate;

and the other radicals are as defined in Claim 2 or 3, respectively.

17. (Amended) Conjugate according to Claim 2 or 3, characterized in that

IA is a non-peptide radical of the formula (IV) addressing an  $\alpha_v\beta_3$  integrin receptor,

wherein

$R^{19}$  represents a direct bond, via which the radical of the formula (IV) is bonded to the rest of the conjugate;

and the other radicals are as defined in Claim 2 or 3, respectively.

20. (Amended) A pharmaceutical composition [Medicament,] comprising at least one of the conjugates according to any [one] of Claims 1 to 17.

21. Cancelled.

22. (New) A method of treating carcinomatous disorders comprising administering an effective amount of a compound of according to any of Claims 1 to 17.

FILED OCT 19 2011